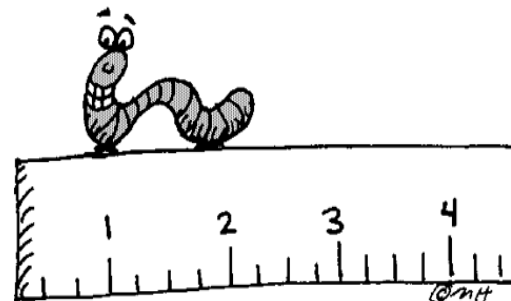


# Summer Math Calendar

## (Entering) Second Grade



***Get ready to discover math all around you this summer!*** Just as teachers encourage students to continue reading throughout the summer to solidify and retain reading skills, we feel the same attention should be given to mathematics. Regular practice over the summer with problem solving, computation, and math facts will maintain and strengthen math gains made over the school year. The Math Specialists of Brookline have created this summer math calendar to provide your child and your family with a variety of math activities to explore this summer.

Inside you'll find creative activities that include measuring and counting everyday objects, math games, riddles, basic facts practice, math web sites and math literature books (available through Brookline's public libraries). The goal is for your child to have fun thinking and working collaboratively with you while communicating his/her mathematical ideas. The activities reflect a range of difficulty with the intent that your child can choose the activities that are at a "just right" level. While you are working on these activities, ask your child **how** he found that solution or **why** she chose that strategy. These activities help reinforce the concepts/skills your child learned this past year so that s/he can retain them over the summer.

This packet consists of 2 calendar pages, one for July and one for August, an alternate summer math calendar as well as directions for math games to be played at home. (Note: a substitute for numeral cards can be a regular deck of cards without the face cards or Uno cards.) Each month's activities are organized into 28 "math boxes." ***You can choose which activities you'd like to complete on which day.*** We encourage your child to complete 20 math boxes each month. After completing a box, color it in. In September return the calendar, with your signature, to your child's new teacher.

We recommend that you integrate an average of 15-20 minutes of math activities into your child's day, including completing the enclosed activities *and* reviewing basic facts. Number facts can be practiced and reinforced through repeated use in games, real-life problems, songs, rhymes, and cards. Help your child to identify "FACTS I KNOW" and the "FACTS I AM WORKING ON." Think of regular and convenient times to review these facts, such as waiting in line, driving in a car, riding the train, reading time, etc.

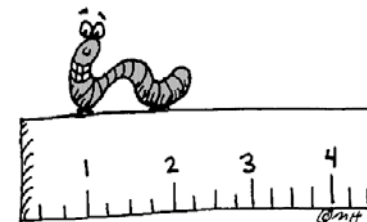
***We hope that you will enjoy the activities, extend them, create new ones and have fun!***

We welcome your feedback on the calendar ([angela\\_allen@brookline.k12.ma.us](mailto:angela_allen@brookline.k12.ma.us)).

Public Schools of Brookline  
K-8 Mathematics Department  
*Revised Spring 2010*



# July Second Grade Calendar Brookline



**Directions:** Complete **any** 20 math boxes and color in the box after you complete it. Return the Math Calendar to school in the fall.

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Blow a marble, a bottle cap, and a pencil across a table or the floor. Measure how far they go. Which goes the farthest? By how much?	0+10 1+10 2+10 3+10 4+10 to 12+10 What patterns do you see? Why?	Count backwards from 30 to 0. Count backwards by 10s from 80 to 0. Count backwards by 5s from 40 to 0.	Make a quart of lemonade. How many cups of water do you need? How many tbsps of mix do you need to make it sweet enough? How many if you double it?	Play a game.  <b>Area Capture</b> (see directions)	Read <b>•Anno's Magic Seeds</b> by Anno Mitsumasa. How many seeds will Jack have at the end of one year if he buried 7 seeds?	Jump 3 times: once like a bunny, once like a frog, and once like a child. Measure each jump. Which was the longest? Shortest? What is the difference in in., ft?
How many books do you have? First, make an estimate. Then count them by 2s. How close was your estimate?	How many ways can you make 25 cents using pennies, nickels, dimes and quarters?	Sort the laundry into categories (by owner, by size, by color or by item type). Make a bar graph for color.	Play <b>Concentration</b> on the web* with numbers 1-6. Record your matches.	Skip count by 10's from 16 to 136 Skip count by 5's from 30 to 125 Skip count by 2's from 1	Play a game.  <b>Close to 20</b> (see directions)	Get a pile of coins. Show all the ways to make 15 cents. How do you know you have them all?
Play <b>Patch Tool</b> on the web.* Choose 2 shapes. Make a pattern. Describe the pattern.	Estimate how many pieces of cereal are in ¼ cup. Count the pieces. Now estimate how many ¼ cups fill in your cereal bowl. Estimate how many pieces in your bowl.	Read <b>•Ten Black Dots</b> by Donald Crews. Name different objects that come in groups of 1, 2, 3, etc. Make your own book.	Read <b>•When a Line Bends ...A Shape Begins</b> by Rhonda G. Greene. How are a square and rectangle alike? How are they different?	6+6 7+7 8+8 9+9 10+10	How long does the traffic light stay green? Red? How could you measure this? How much longer is 1 light than the other?	I have a machine that adds 5 to every number I put in. If I put in 4, what comes out? If I put in 16, what comes out?
Play a game like  Δ <b>Connect Four</b> or <b>Dominoes</b>	Count by 2s to 50 starting at 12. Count by 10s to 64, starting at 4. What did you notice about the numbers you say?	7+7    8+9 7+8    9+9 8+8    9+10  What clues help you solve these problems?	I am 7 years old and my sister is 11. Who is younger? By how much? I have 16 stickers and my sister has 9. Who has more? How many more?	Ask someone at home to time how long you can hop on your right foot, then your left. Which foot could you hop on longer? How much longer?	Play <b>Bobbie Bear</b> on the web.* <b>Choose: Customize</b> How many outfits can you make with 2 shirts and 2 pants?	5+5 4+6 3+7 2+8 1+9 10+0

\* Website Directions: Go to: [illuminations.nctm.org](http://illuminations.nctm.org) Click on **ACTIVITIES**. Click on **K-2** and press **SEARCH**.

grade 2.July calendar.10

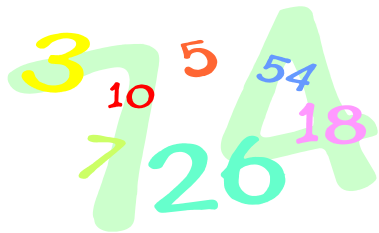
Δ These games are available in stores.

• Book is available through Brookline's public libraries or Minuteman library network (▼)

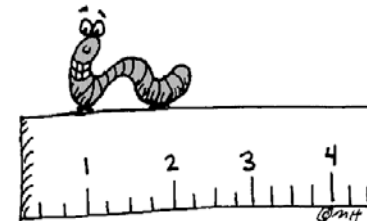
Parent's Signature: \_\_\_\_\_

Child's Name: \_\_\_\_\_

Created by the Math Department, Public Schools of Brookline, Revised Spring 2010



# August Second Grade Calendar Brookline



**Directions:** Complete **any** 20 math boxes and color in the box after you complete it. Return the Math Calendar to school in the fall.

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Play a game.  <b>Counters in a Cup</b> (see directions)	10-0 10-1 10-2 10-3 10-4 10-5 What patterns do you see? Why?	Make a calendar for this week. Record the temperature each day. At the end of the week, compare your weather with the weather in Phoenix. What do you notice?	A small pack of gum has 6 pieces. How many pieces of gum are in 3 packs? What about in 5 packs? In 7 packs?	Make a 3-D shape using mini marshmallows and toothpicks. How many corners does your shape have? How many edges?	The three numbers in my fact family are 7, 3 and 10. What are the 2 addition and 2 subtraction number sentences you can make using these numbers?	Play <b>Bobbie Bear</b> on the web.* <b>Choose: Customize</b>  How many outfits can you make with 3 shirts and 3 pants?
Roll 2 dice together and add to find the sum. Record the sum. Do this 20 times. What sum did you get the most often? Why?	Play <b>Ten Frame</b> on the web.* Games: <i>Fill a Frame</i> Record all the number sentences with a sum of ten.	29+10 27+10 25+10 23+10 21+10 What pattern do you hear?	Read • <b>Ten Red Apples</b> by Pat Hutchins. What's the pattern? Write down the number equations for each page.	Make a list of 2D and 3D shapes. Go on a scavenger hunt to look for those shapes. Bring your list and check off the shapes you find.	Play a game like  Δ <b>Chips</b> or <b>Shut the Box</b>	Listen to the whole string of numbers before answering: I had 4 shells. I got 2 more. I got 3 more. I lost 2. How many do I have?
6+3 7+3 8+3 9+3 10+3 11+3 What clues help you?	Create a repeating pattern with shapes, like # # * # # *. Ask a friend what the 9 <sup>th</sup> shape would be? the 10 <sup>th</sup> ? Have a friend make up a new pattern.	Play a game.  <b>Tens Go Fish</b> (see directions)	Tell an adult an addition story problem to go with 4 + 8. Now tell a subtraction story problem for 12 - 4.	Read • <b>Quack and Count</b> by Keith Baker. Name all the combinations to make 7. Complete this: __ + __ + __ = 7	17-10 16-10 15-10 14-10 13-10 12-10 What clues help you?	Line up 4 different figures or animals. Record the order. Now change the order. How many different ways can you line them up?
Read • <b>Seven Blind Mice</b> by Ed Young. Draw & color the 7 mice in a line in the order they approach the Something. Which mouse was 4 <sup>th</sup> ?	Hiding game Get 7 pennies. Put some in 1 hand and some in the other hand. Show 1 hand and have the adult figure out what's hiding. Switch roles. Play 10x.	Estimate the length of string you'd need to fit around a ball.  Test your prediction. What did you notice?	Play <b>Concentration</b> on the web* with numbers 1-10. Record your matches by writing the digits with the words or pictures that match.	Make a tally chart of the number of fruits and vegetables you ate today at your meals and for snacks. Did you eat 5 servings? Try again tomorrow.	If I see 8 people, how many eyes can I see?  If there are 30 toes under the table, how many people are sitting at the table?	Cut out grocery coupons that your family might use. Sort these coupons into different categories. What category has the most? The least?

\* Website Directions: Go to: **illuminations.nctm.org** Click on **ACTIVITIES**. Click on **K-2** and press **SEARCH**.

Grade2.August calendar.10

• Book is available through Brookline's public libraries or Minuteman library network (▼)

Δ These games are available in stores.

Parent's Signature: \_\_\_\_\_

Child's Name: \_\_\_\_\_

Created by the Math Department, Public Schools of Brookline, Revised Spring 2010

# Area Capture

**Materials:** Game Board

Crayons or Markers (2 different colors)

**Players:** 2

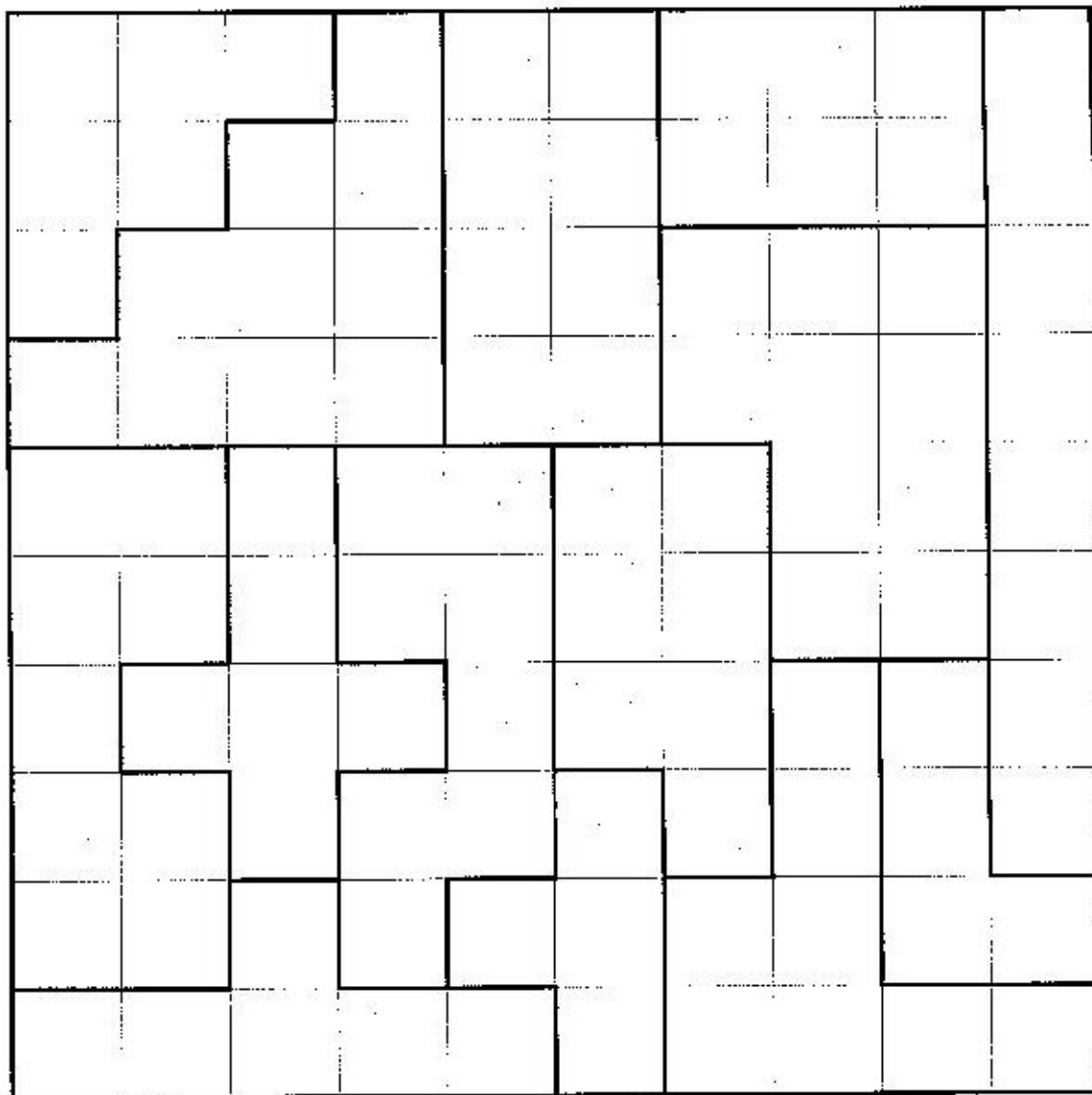
**Object:** To capture more space on the Game Board than your opponent.

*Note: To play the game more than once, make multiple copies of the game board before using it. Alternately, the figures on the game board can be cut out and saved. To play, follow the directions below, but do not color or write on the shapes. Players each collect the shape of their choice on their turn, and record the area on a piece of paper.*

**How to Play:**

1. Each player chooses one color crayon or marker to use for the game. Players take turns choosing one of the figures on the game board to capture. Figures are captured by coloring in all of the squares of the figure, finding the total number of squares in the shape (area), and writing that number in the shape.
2. After all of the shapes have been captured, each player finds the sum (total) of all of their figures.
3. Players check to make sure the sum of their areas together equals 100, the total number of squares on the game board.
4. The player who captures the largest total area wins the round.

## Area Capture Gameboard I



# Close to 20

**Materials:** Deck of number cards, 0 to 10 (four of each)  
Close to 20 score sheet

**Players:** 2

**Object:** Add 3 cards together and get as close to 20 as you can.

*Note:*

*\*You can make the number cards out of index cards. Or, playing cards can be used, with the Ace being 1, and jokers or some other face card being zero.*

*\*\*To play the game more than once, make multiple copies of the recording sheet before using it. Alternately, put the recording sheet in a clear sheet protector, use a dry erase marker, and the sheet can be reused.*

## How to Play:

1. Deal 5 cards to each player.
2. Take turns choosing any 3 of your cards to add together, getting as close to 20 as you can.
3. Record your numbers and the total (sum) on the recording sheet.
4. Your score is the difference between your sum and 20.  
(Example. You choose 9, 5 and 8. Your sum is 22. Your score is the difference between 20 and 22.  $22 - 20 = 2$ )
5. After each round, players return their 3 used cards to the discard pile and take 3 new cards.
6. Play 5 rounds. Find your total score. The player with the ***lowest*** total score is the winner!

# Close to 20 Score Sheet

PLAYER 1

SCORE

Round 1: \_\_\_\_\_ + \_\_\_\_\_ + \_\_\_\_\_ = \_\_\_\_\_

Round 2: \_\_\_\_\_ + \_\_\_\_\_ + \_\_\_\_\_ = \_\_\_\_\_

Round 3: \_\_\_\_\_ + \_\_\_\_\_ + \_\_\_\_\_ = \_\_\_\_\_

Round 4: \_\_\_\_\_ + \_\_\_\_\_ + \_\_\_\_\_ = \_\_\_\_\_

Round 5: \_\_\_\_\_ + \_\_\_\_\_ + \_\_\_\_\_ = \_\_\_\_\_

TOTAL SCORE: \_\_\_\_\_

PLAYER 2

SCORE

Round 1: \_\_\_\_\_ + \_\_\_\_\_ + \_\_\_\_\_ = \_\_\_\_\_

Round 2: \_\_\_\_\_ + \_\_\_\_\_ + \_\_\_\_\_ = \_\_\_\_\_

Round 3: \_\_\_\_\_ + \_\_\_\_\_ + \_\_\_\_\_ = \_\_\_\_\_

Round 4: \_\_\_\_\_ + \_\_\_\_\_ + \_\_\_\_\_ = \_\_\_\_\_

Round 5: \_\_\_\_\_ + \_\_\_\_\_ + \_\_\_\_\_ = \_\_\_\_\_

TOTAL SCORE: \_\_\_\_\_

## Counters in a Cup

**Materials:** Counters (5–10)

Counters in a Cup game grid

Paper cup

**Players:** 2

**Object:** Figure out how many of a set of counters are hidden.

### How to Play

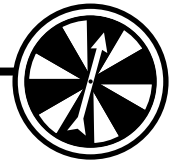
1. Decide how many counters to use each time. Write this total number on the game grid.
2. Player A hides a secret number of counters under the cup and leaves the rest out.
3. Player B figures out how many are hidden and says the number. Lift the cup to check.
4. On the game grid, write the number hidden in the cup and the number left out.
5. Players switch roles. Hide a different number of counters. (It's OK to hide the same number of counters more than once in a game.)
6. Repeat steps 2–5 until you have filled the game grid. (Hide the counters eight times.)

### Optional

Your filled game grid shows different ways to break the total number into two parts. Can you find a way that is not shown?

#### Note to Families

For counters, you can use buttons, pennies, paper clips, beans, or toothpicks. Hide them under any container that you cannot see through. If you do not have a copy of the game grid, write the numbers in two columns on any paper.



# Tens Go Fish

## You need

- deck of Primary Number Cards (without Wild Cards)
- sheet of paper

## Play with a partner.

- 1** Each player is dealt 5 cards from the Primary Number Card deck.
- 2** Each player looks for pairs from his or her cards that make 10. Players put down the pairs of cards that make 10, and they draw new cards to replace them from the Primary Number Card deck.
- 3** Players take turns asking each other for a card that will make 10 with a card in their own hands.  
If a player gets the card, he or she puts the pair down and picks a new card from the deck.  
If a player does not get the card, the player must “Go fish” and pick a new card from the deck.  
If the new card from the deck makes 10 with a card in the player’s hand, he or she puts the pair of cards down and takes another card.  
If a player runs out of cards, the player picks two new cards.  
A player’s turn is over when no more pairs can be made that make 10.
- 4** The game is over when there are no more cards.
- 5** At the end of the game, players record their combinations of 10.